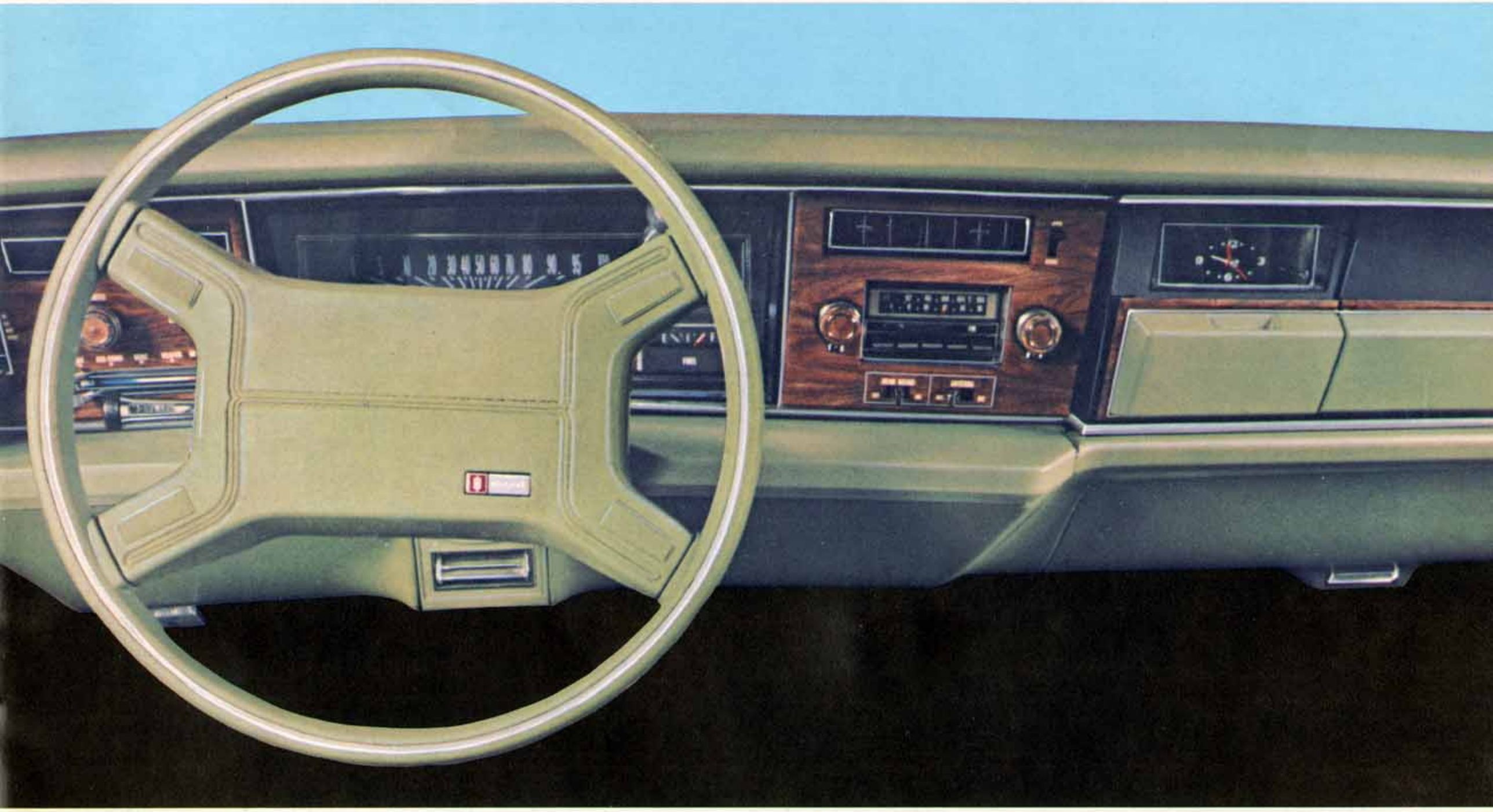
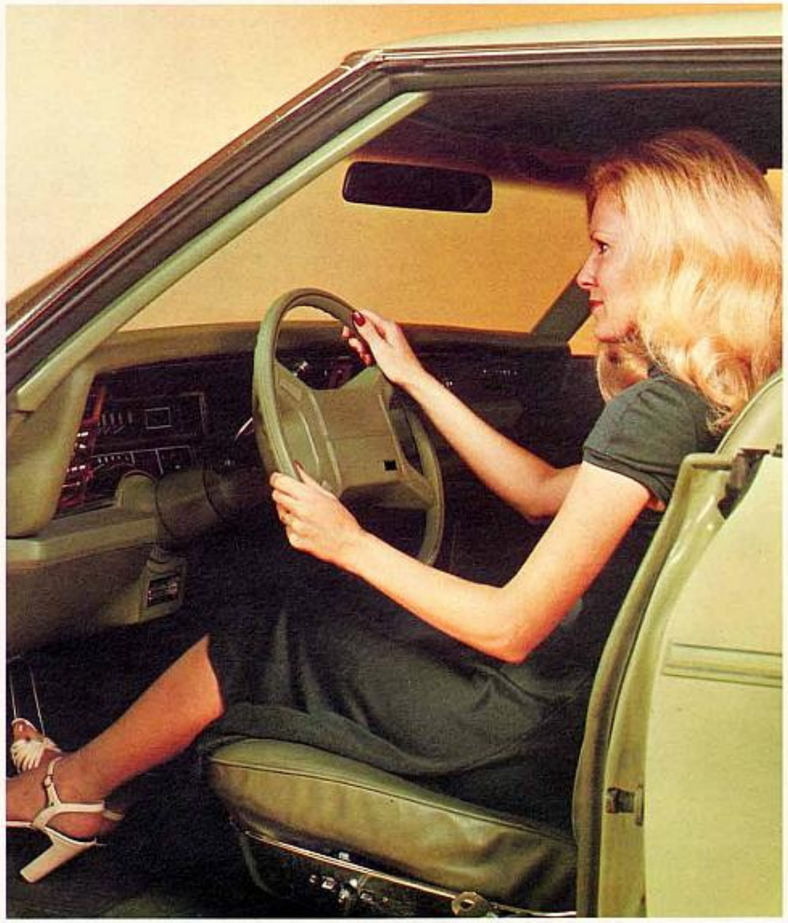
The convenience and security of Oldsmobile's new

AIR CUSHION RESTRAINT SYSTEM...



available only from General Motors GM

THE GM AIR CUSHION RESTRAINT SYSTEM...



You'll never know it's there...

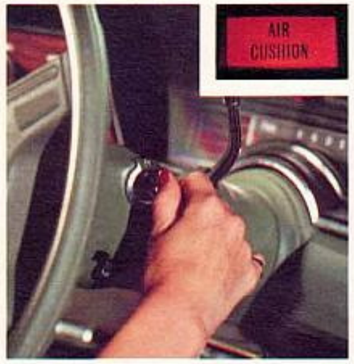
unless you need it!

The instrument panel shown here looks like practically any other General Motors instrument panel. What makes this one different is that the passengers' air cushion is concealed beneath the instrument panel. The driver's air cushion restraint is completely contained in the steering wheel hub.

These cushions are designed to stay out of sight and out of your way—*unless you need them.* When you do need them, they inflate automatically. In a fraction of a second, the two front seat air cushions help restrain both the driver and front seat passengers in the event of a front end collision.

A.C.R.S. ...a convenient restraint system for you and your front seat passengers

Buckle up...



Start the engine...check the air cushion indicator light...

and off you go.

NO BUZZERS, FLASHING LIGHTS OR SPECIAL STARTING SEQUENCE

New automobiles sold in the United States are required by Federal law to be equipped with systems that help restrain occupants in accident situations. A familiar system is the combination lap/shoulder belts found on most new cars today.

An alternate to this system is General Motors' new Air Cushion Restraint System (A.C.R.S.). This system eliminates the buzzers, flashing lights, ignition interlock and special starting sequence which are part of today's combination lap/shoulder belt system.

A.C.R.S. is convenient. You get in your car...start the engine...check the air cushion indicator light...buckle the available lap belt...and off you go. It's that simple!

We recommend use of the lap belt. It helps give added restraint in those accidents where A.C.R.S. is not designed to activate, such as in minor impacts (below 11 m.p.h.), and in some side impacts and rollovers.

The instrument panel indicator light lets you know if the A.C.R.S. is operating properly or needs service.

MORE FREEDOM AND COMFORT

In addition to eliminating a number of inconvenient starting procedures, A.C.R.S. helps give the driver and front seat passengers more freedom to move around. There are no shoulder belts to confine movement or to detract from the car's interior appearance. It's designed to stay out of sight unless you and your front seat passengers need it.

Now you can enjoy the benefits of A.C.R.S. ...only from General Motors!

A.C.R.S. ...a space age-engineered passive restraint system

HOW IT WORKS

The General Motors Air Cushion Restraint System consists of five basic components: the front bumper impulse detector, the instrument panel impact sensor, the driver's air cushion, the driver's knee restraint and the front seat passengers' air cushion. Each component plays an important role in helping restrain the driver and front seat passengers in a front end collision.

The A.C.R.S. is activated by a frontal type collision of sufficient force to frequently cause some degree of personal injury to unrestrained occupants. Without any form of restraint, the driver and front seat passengers would continue moving forward into the steering assembly or the instrument panel and windshield. With A.C.R.S., air cushions automatically inflate in a fraction of a second after impact, while helping to restrain the driver and front seat passengers from moving into the instrument panel and windshield.

THREE DIFFERENT DETECTOR SYSTEMS CAN ACTIVATE A.C.R.S.

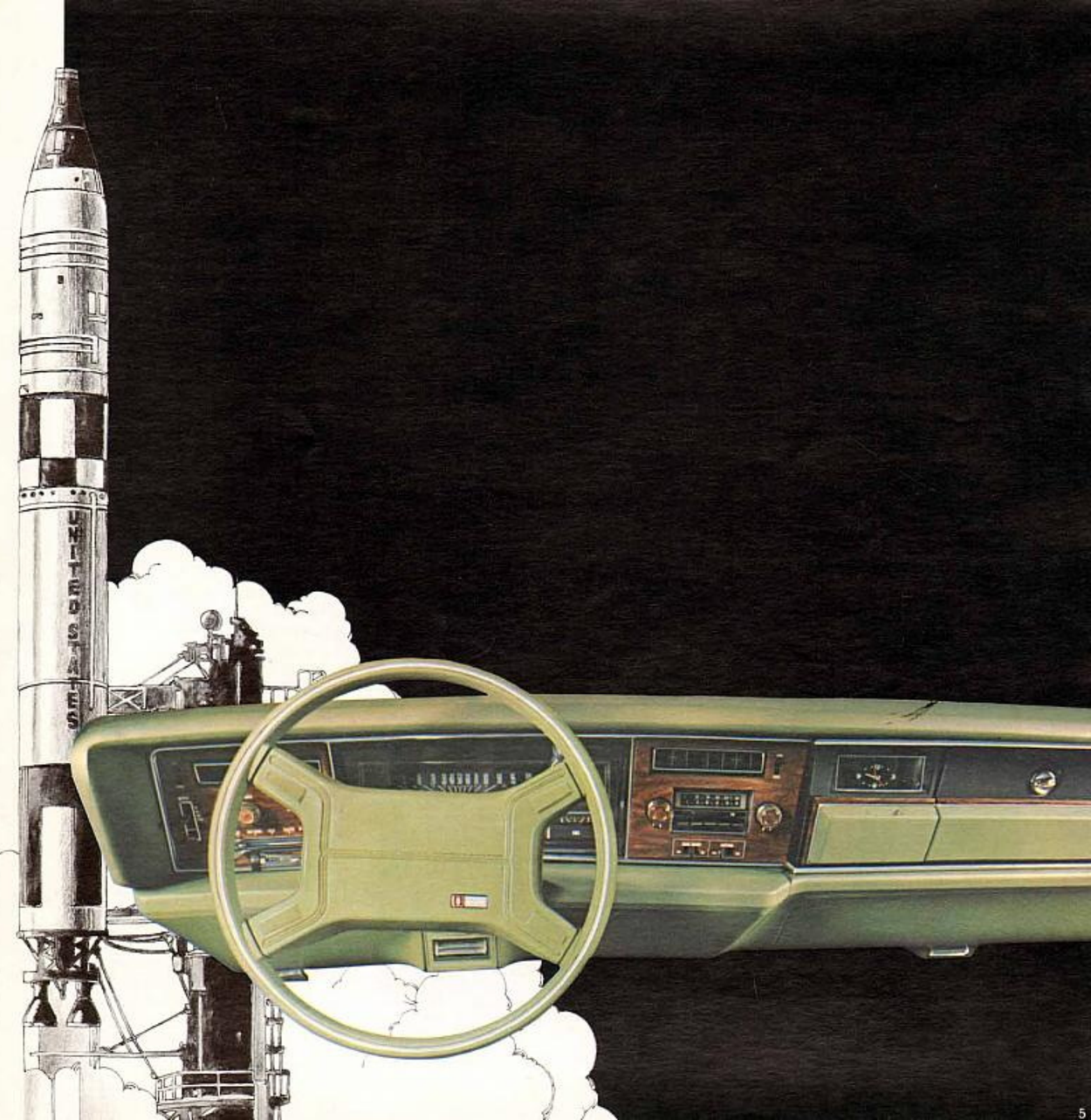
Three detector systems are provided to cover a wide range of frontal type accident possibilities. Lower speed collisions are covered by two detector systems, one in the bumper and another in the instrument panel. A third detector system, also located in the instrument panel, signals for additional restraint for passengers in accidents of greater severity.

THOROUGHLY TESTED FOR RELIABILITY

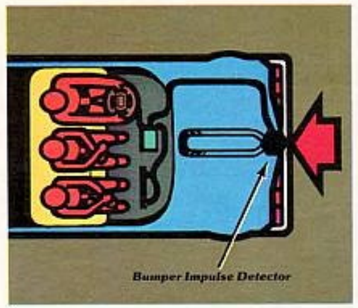
General Motors has invested years of research and development in the Air Cushion Restraint System. In particular, General Motors' Delco Electronics Division, which was responsible for the design and development of many space program systems, designed and manufactured the A.C.R.S. circuitry. Tests in both the laboratory and under actual driving conditions have been performed. Thousands of pre-production tests have been made to check out both the parts and the system. Many actual vehicle collision tests have been conducted to verify that the A.C.R.S. operates as intended. One thousand A.C.R.S. equipped cars have also been driven nearly 40 million miles in actual on-the-road service.

INSTRUMENT PANEL INDICATOR LIGHT MONITORS SYSTEM

An instrument panel indicator light illuminates for a few seconds after the ignition switch is turned on. If an electrical malfunction occurs, or the system needs ordinary servicing, the light will remain on or come on while you drive. If the light fails to come on briefly when the ignition switch is turned on, it shows a need to service the indicator light.



A.C.R.S. ... effective in helping provide driving restraint



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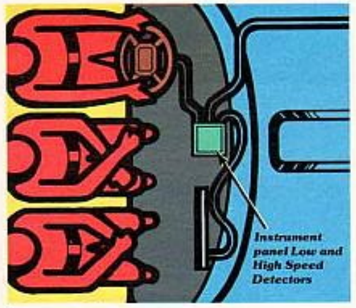

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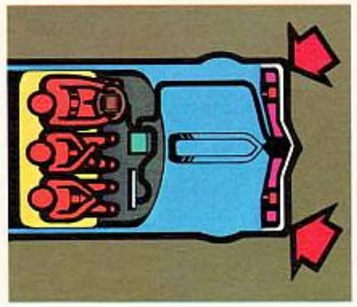

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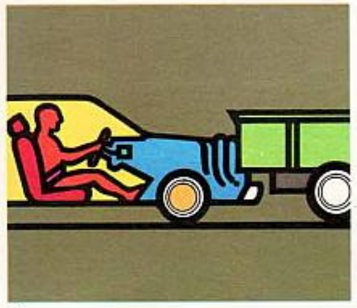

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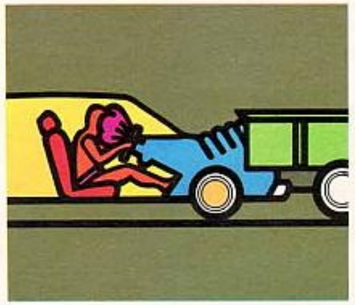

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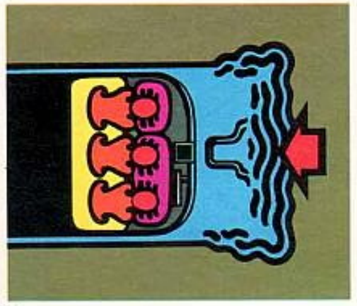

F

Illustration A (top left) shows the location of the low speed, front bumper impulse detector.

Illustration B (top right) indicates the instrument panel location of an additional low speed impact detector and the high speed detector.

The low speed instrument panel detector is designed to activate the total system in the event of front corner impacts (Illustration C — middle left) and in collisions where there is no front bumper contact (Illustration D and E — middle right and bottom left). The high speed detector will activate the system in all of the above described frontal impacts in order to provide additional restraint.

In the event of a frontal type collision (Illustration F — bottom right) the sensing system automatically activates the air cushion restraints in less than a fraction of a second or as fast as one can blink an eye.

Low speed detectors are designed to activate the total system in a frontal type collision with an immovable object, such as a wall, at about 11 m.p.h. When striking a comparable parked vehicle (which will move or crush), the low speed detector will activate the system at about 22 m.p.h.

In more severe accidents the high speed detector will more firmly inflate the passenger system at about 18 m.p.h. when striking an immovable object, and about 36 m.p.h. when impacting a comparable parked car.

The *driver's* air cushion is completely contained within the hub of the steering wheel. A structural knee restraint is also provided for the driver.

The *passenger* side air cushion is contained under the instrument panel on the passenger side of the vehicle. It inflates and extends from the driver's air cushion to the right door. The cushion deflates at a controlled rate to help absorb impact. A smaller knee restraint cushion inflates first to help position the passengers' legs for proper body position when the main cushion deploys.

Here's what people who have used THE GM AIR CUSHION RESTRAINT SYSTEM *have to say about it...*

"There are a couple of things I like about it especially in my job. I visit a lot of our plants. I am in and out of the car... I have passengers in and out of the car, and I like the convenience of not having to have the shoulder harness on and of not having the lights and buzzers that are on the standard cars... so it's quite a convenience there... the check-out system gives me a lot of confidence, too. I guess we've got a space age system in an automobile today and I am just real pleased."

"I was surprised that the instrument panel styling was as handsome as a normal car without the air bag system *(A.C.R.S.)*."

"A thoroughly enjoyable experience. It would be difficult to go back to the starter interlock system."

"More and more, you begin to appreciate the freedom. No buzzers, the engine starts when you get in. It's like the old days. Nothing's happened yet to change my mind. I like it."

"I can think of many aspects which make this air restraint system *(A.C.R.S.)* more attractive than any seat belt system... the convenience, freedom of movement, no shoulder/neck rub, no wrinkled clothes from belts, and no interference to rear passengers' view."

"I enjoyed this vehicle very much as I like not having to use shoulder belts. I would definitely prefer and buy a car with the air restraint system *(A.C.R.S.)*."

"Has left my clothing in a fresh-pressed appearance for a significantly longer period (compared to the lap/shoulder belt combination)."

GM

**WE WANT YOU TO
DRIVE WHAT YOU LIKE
AND LIKE WHAT YOU DRIVE.**

LITHO IN U.S.A.

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